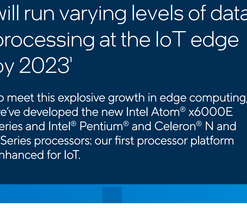

intel

More performance, more capabilities, more versatility for IoT

Intel Atom® x6000E Series and Intel® Pentium® and Celeron® N and J Series processors

intel ATOM
intel PENTIUM
intel CELERON

Up to 70% of enterprises will run varying levels of data processing at the IoT edge by 2023[1]

To meet this explosive growth in edge computing, we've developed the new Intel Atom® x6000E Series and Intel® Pentium® and Celeron® N and J Series processors: our first processor platform enhanced for IoT.

HIGHLIGHTS

Perfect for edge applications requiring low-power performance in a small form factor

Increased CPU and GPU performance, plus enhanced Real-Time performance and efficiency

Up to a 1.7x improvement in single-thread performance and up to a 1.5x improvement in multi-thread performance gen over gen[2]*

Up to 2x performance improvement in graphics gen over gen[2]*

Dedicated Real-Time offload engine

Onboard Functional Safety monitoring and SIL2 certification[3]†

Out of Band and In-Band remote device management

Enhanced I/O and storage options

Integrated 2.5GbE Time Sensitive Networking

* See backup for configuration details. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.
† Not all features are available on all SKUs

KEY FEATURES

Intel® Programmable Services Engine (Intel® PSE) a dedicated offload engine that supports Real-Time features, low DMIPS computing, and IoT-centric I/O

4kp60 maximum resolution on up to three simultaneous displays

Meet strict functional safety (FuSa) requirements **with the Intel® Safety Island†**

Intel® Time Coordinated Computing and Time Sensitive Networking supporting worst case execution time operations and ultra-reliable low-latency communication†

Hardware-based security that helps mitigate firmware, code and data attacks

† Not all features are available on all SKUs

USE CASES

Real-Time control systems and devices that meet functional safety requirements for industrial robots and for chemical, oil field, and energy grid control applications

Vehicle controls, fleet monitoring, and management systems that synchronize inputs from multiple sensors and direct actions in semiautonomous buses, trains, ships, and trucks

Medical displays, carts, service robots, entry-level ultrasound machines, gateways, and kiosks that require **AI and computer vision with reduced energy consumption**

Fixed and mobile point of Sale (POS) systems for retail and quick service restaurants (QSR) **with high-resolution graphics**

To learn more, visit **intel.com/elkhart-lake**

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1) IDC FutureScape, Worldwide Internet of Things 2020 Predictions.
2) Source: Intel. Claims based on a) SPEC CPU 2006 metric estimates based on Pre-Si projections and b) 3DMark11 estimates based on Pre-Si projections, using Intel® Pentium® J4205 as prior gen.

Configurations:
Performance results are based on projections as of September 1st, 2020
Processor: Intel® Pentium® J6425 PL1=10W TDP, 4C4T Turbo up to 3.0GHz
Graphics: Intel Graphics Gen 11 gfx
Memory: 16GB LPDDR4-3200
OS: Windows* 10 Pro
Compiler version: IC18

Processor: Intel® Pentium® J4205 PL1=10W TDP, 4C4T Turbo up to 2.6GHz
Graphics: Intel Graphics Gen 9 gfx
Memory: 16GB LPDDR4-2400
OS: Windows* 10 Pro
Compiler version: IC18
Performance numbers are Pre-Si projections and are subject to change. Results reported may need to be revised as additional testing is conducted. The results depend on the specific platform configurations and workloads utilized in the testing, and may not be applicable to any particular users components, computer system or workloads. The results are not necessarily representative of other benchmarks.

3) Certification in process

Notices and Disclaimers
Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors.
Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information, visit www.intel.com/benchmarks.
Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.
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Results that are based on systems and components as well as results that have been estimated or simulated using an Intel Reference Platform (an internal example new system), internal Intel analysis or architecture simulation or modeling are provided to you for informational purposes only. Results may vary based on future changes to any systems, components, specifications or configurations.

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Statements in this document that refer to future plans or expectations are forward-looking statements. These statements are based on current expectations and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statements. For more information on the factors that could cause actual results to differ materially, see our most recent earnings release and SEC filings at www.intc.com.

Not all features are available on all SKUs.

Not all features are supported in every operating system.

Intel may change availability of products and support at any time without notice.
Your costs and results may vary.

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